

Pharmacy students' experience during the Covid-19 pandemic and its impact on their health, academic endeavors and overall perceptions-a study

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Introduction

The world of the pharmacists in the R.N. Macedonia is a small one, a few dozen fresh faces enter the work force each year and are quickly memorized by the establishment at large, yet little is known about the outlooks of this new breed of pharmacists. Time and time again we see that effective communication between generations and proper understanding of each other's values is key in the passing of the torch in any field (Alghamdi and Ali, 2021; Cernasev et al., 2021; Nagy et al., 2021).

This holds especially true in times of crisis such as the global Covid-19 pandemic. Accordingly, the aim of this study was to examine the lived experiences and mental status of pharmacy students in R.N. Macedonia and shed new light on their opinions concerning the Covid-19 pandemic so as to provide a better understanding of them to the already established work force.

Materials and methods

The cross-sectional study questionnaire included 35 items associated to the lived experiences and the opinions of pharmacy students in R.N. Macedonia concerning the Covid-19 pandemic and its effect on their personal lives and studies. The questionnaire was segmented into three parts: *Section A*, related to the student's own experiences while being infected with Covid-19; *Section B*, related to the vaccination status of the students and the national response to Covid-19 outbreaks and *Section C*, was related to the effect of the Covid-19 pandemic on the studies of pharmacy students. Questions of ethnicities, affliction with chronic diseases and use of cigarettes or electronic

smoking devices were also asked. Results were collected between April 14th and May 16th, 2022. Obtained data were tabulated using Microsoft Excel® Microsoft Corp. Redmond, WA, USA, computed and consequently evaluated using statistical software STAT-GRAPHICS Centurion XVI evaluation (Stat Point technologies Inc., USA).

Results and discussion

The study was based on the results of 359 responses by pharmacy students in R.N. Macedonia of which 86.1% were female and the average age was 21.281 ± 3.87 years.

Section A - Half of the surveyed students (50%) had been afflicted with Covid-19, diagnosed either by a PCR test or a Rapid test. A vast majority (97.3%) complied to mandatory self-isolation practice and didn't feel much pressure for law infringement (84.9%). Worryingly, 21% reported that they had serious Covid-19 symptoms but that they had dealt with them at home. This could indicate that young adults were either lower priority patients or that they have little trust in national health care system. 36.2% encountered post-Covid-19 symptoms such as a lack of taste, smell and shortness of breath coinciding partially with the results from the study of (Amin et al., 2021). Lack of mental clarity and anxiety was reported by 39.5%. Finally, an overwhelming majority (81.1%) reported that they had to care for themselves and their loved ones during the pandemic.

Section B - Nearly 1/4 (27.6%) of surveyed pharmacy students reported that they hadn't been vaccinated which might be attributed to lack of trust in information from public health experts, as well as concerns about side effects

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(Gala et al., 2022). 65% of vaccinated students had a possibility to choose the type of vaccine, and 59.5% of them took Pfizer/BioNTech. Side-effects except common (injection site pain, muscle soreness, headaches, etc.) were reported by 10% of surveyed students. Opinions were split on where the unwanted side-effects should be reported, but most agreed that complaints should be sent to the Ministry of Health, the vaccine manufacturer and the Institute of Public Health. Curiously, most students either didn't want to receive a third dose (63.8%) or hadn't considered the idea (26.7%). Predictably, most students (75.6%) agreed that both the time of testing and the number of test subjects on which a vaccine should be tested are important factors in determining the efficacy and safety of the vaccine. When asked via multiple choice question who should be vaccinated with three doses, opinions were split in the following order: 61.6% considered that persons over the age of 50 should be vaccinated, 55.4% that persons with compromised immunity should be vaccinated and 38.2% that healthcare workers should be vaccinated as well, with (8.9%) showing that persons under 50 should be vaccinated and (24.2%) saying that no one should be vaccinated either. This may indicate that students perceive the third dose of the vaccine as optional rather than an important booster. Most students (62.7%) shared opinion that a community pharmacist could play a bigger role in the fight against Covid-19 as an educator-, while 30.6% considered that their community pharmacist could also administer Covid-19 vaccines after proper training, reflecting an interest to expand the role and activities of community pharmacists. Adequacy of R.N. Macedonia state pandemic dealing was rated inadequate by 27.3%. Around 17% reported that they didn't use any source of information (mass media, local media, trusted researchers) to get more information about Covid-19 pandemic. At the time of survey, 53.5% elucidated that they don't follow anymore pandemic related news thus correlating with their view that pandemic is at the end (57%).

Section C – Nearly half of the students (~50%) have opinion that distance learning could not be long term substitute for conventional one. Additionally, 64.6% requested for inclusion of audio-visual materials (video, animations), 43.2% for higher dynamic interactions and 38.7% for more quizzes. Majority of the students (85.2%) had necessary hardware equipment for on-line classes. Covid-19 pandemic had significant influence on student's mental health in 46.8% as well as on their physical health in 26.7% of responders. 41.8% had the opinion that they didn't acquire necessary skills and experience essential for laboratory working during current pandemic. Finally, they were asked if they felt that a compromise between restrictions to preserve public health and measures to nurture the economy could be found, where 46% reported that they wished things to return to the way they once were.

Conclusion

In conclusion we may say with a degree of confidence that the modern generation of pharmacists is similar to the one before it, self-efficient and resilient, yet crucially different in a few areas. They showed great adaptability and endurance regarding the government's public health management and their own faculty's new approach to distance learning.

Yet interestingly, they showed a bigger regard for their own mental health struggles, reflecting a more holistic approach to their own health, a key example in how our attitudes and views on healthcare are primed to change in the coming decades. As it is obvious that this is a serious issue, we urge the leadership in pharmacy academia to take this opportunity and apply evidence-based solutions to the problem at hand.

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